

2nd National Conference on Priority Setting for Health Research 2006

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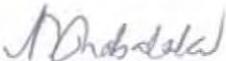
Preface

The Cluster: Health Information, Evaluation and Research within the Department of Health developed these proceedings on the National Conference on Priority Setting for Health Research as a tool listing priority areas requiring research in South Africa. The primary objective was for research to be based on current health problems that emanates from the national burden of disease. This report is therefore addressed to researchers, institutions and organisations including policy makers, donors and all stakeholders that have an interest in priority health research in South Africa.

This report not only serves the interests of the parties actively involved in the research process, but also ensures that research resources are directed at research that would afford the advancement of public health objectives.

The report provides an agenda for priority setting initiatives for institutions and organisations and donors that are conducting health research. The list of the identified health research priorities will be refined to come up with specific research questions, which will be shared with all the research institutions and organisations.

I hope this particular exercise will also consider all the research questions identified during the 1996 priority setting to ensure that gaps in research conducted in this country are addressed and that research questions respond to the needs of our people.


DR MANTO TSHABALALA-MSIMANG, MP
MINISTER OF HEALTH

Acknowledgements

Priority setting has a common planning framework worldwide and should be reviewed at least every 5 years. This priority setting exercise will assist managers, researchers and academics to evaluate the strength and resources for prospective research as well as to determine the impact of research outcome.

I would like to acknowledge the Directorate: Health Research within the Cluster: Health Information, Evaluation and Research for successfully organising the 2nd 2006 National Health Priority Setting Conference. A word of appreciation to Dr L. Makubalo (Cluster Manager), Ms P. Netshidzivhani (Director), Ms M. Ratsaka-Mothokoa, Ms K. Moshia, Mr K. Hlongwa, and Mr M. Kgasi for their assistance with the general co-ordination of the conference. Thank you also to the administrative staff of the Directorate: Health Research, Mr R. Maluleke, Mr G. Moremi and Ms R. Sanyane who played a major role in planning, organising and managing the administrative matters of the Conference.

A special thanks goes to Prof. Debbie Bradshaw (MRC), Dr Clifford Nxomani (MRC), Prof. Geoffrey Setswe (HSRC), Dr Irwin Friedman (HST) and Ms Jane Roberts (HST) for being part of the planning committee for the conference, for providing insight on the priority setting methodology and co-ordinating the plenary sessions, which led to the proceedings of this two-day conference.

A sincere thanks also goes to the officials from the provincial Departments of Health especially the Provincial Health Research Committees, the academic institutions, research councils namely, MRC, HSRC, CSIR and non-governmental institutions, community organisations, World Health Organisation and UNICEF and funding partners such as DFID, USAID and European Union for participating in the two day conference.



MR T. D. MSELEKU

DIRECTOR-GENERAL: HEALTH

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ARV's	Antiretrovirals
CDC	Centers for Disease Control and Prevention
COHRED	Council on Health Research for Development
CSIR	Council for Scientific and Industrial Research
DALY's	Disability Adjusted Life Years (burden of disease)
DFID	Department for International Development
ENHR	Essential National Health Research
FAS	Fetal Alcohol Syndrome
HIV	Human Immunodeficiency Virus
HSRC	Human Science Research Council
HST	Health Systems Trust
MRC	Medical Research Council
NCD	Non-Communicable Disease
NDOH	National Department of Health
NGO	Non-Governmental Organisations
NIH	National Institutes of Health
PMTCT	Prevention of Mother-to-Child Transmission
RDP	Reconstruction and Development Programme
SAMA	South African Medical Association
STI's	Sexually Transmitted Infections
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

WHO	World Health Organisation
WSSD	World Conference for Sustainable Development
YLL's	Years of Life Lost (premature mortality)
YPLL's	Years of Potential Life Lost (premature mortality)

1. CONFERENCE OVERVIEW

The Health Research Directorate organised the conference with the purpose of identifying a list of priority areas for health research in South Africa, with the intention to build on the work done at the previous Health Priorities conference held in 1996 and the framework developed at the Essential National Health Research (ENHR) conference in 2002. It was emphasised during the conference that the list prioritised is not intended to be a blueprint of the research agenda of the Department of Health, but rather to provide a national guide for health research in South Africa.

The Deputy Director General, Dr Kamy Chetty opened the conference. The purpose of the session was to inform delegates about the major areas into which research is currently being conducted, and to suggest ways in which the task of priority setting could be tackled.

Dr Lindiwe Makubalo the Cluster Manager of the Health Information, Evaluation and Research gave an overview of research coordination in South Africa. Presenters from various large-scale research organisations working in South Africa gave overviews of the research activities in which they are engaged, and some of the presenters outlined their approaches to priority setting in research.

2. BACKGROUND

Health research priority setting exercises was undertaken in South Africa in 1994 during the first ENHR meeting. In 1995, a workshop was held where participants identified a number of priority research areas and formulated health goals and objectives using the Reconstruction and Development Programme (RDP) framework. In 1996, at a further ENHR workshop, a working group was established to assist in the development of the criteria and process on prioritisation, which would be used to guide the ENHR.

The first National ENHR Congress on priority setting was held in November 1996 and was attended by a wide range of stakeholders. The purpose of the Congress was three fold: (a) to identify health research areas that address priority health problems in South Africa, (b) to develop a process for consensus building and (c) to facilitate the establishment of an ENHR Committee. A list of health research areas were identified which served to guide health research in South Africa for the subsequent years.

The second ENHR Congress was held in East London in August 2002. The aim of the conference was to popularise the National Health Research Policy and to create awareness of the policy and also to adopt a new priority settings framework. The framework incorporated health problems and health system issues that would need to be considered when setting priorities.

The objectives of the National Health Priority Setting conference 2006 were:

- to set up a consultative process that would draw together expertise and knowledge in health research,
- to review the framework for setting priorities developed in 2002,
- to identify priority research areas,
- to identify neglected research areas and,
- to identify the important questions that South African researchers can address.

Delegates from numerous research organizations in South Africa participated, as well as representatives from Provincial Departments of Health, and some representatives from the National Directorates. Table 1 shows the number of organisations and institutions that were represented at the 2 days meeting.

Table 1: List of Organisations and Institutions that Participated in the Priority Setting Process

Organisation/Institution	Number
Universities	8
NGO's	1
Science Councils	4
Professional Associations	2
Technikons	4
Nursing Colleges	2
Provincial Health Departments	8
Other government Departments	4
Development Organisations	5

3. PRIORITY SETTING PROCESS

The ENHR model for setting priorities includes a process of review, stakeholder consultation and analysis has been used to guide the development of the South African approach. The conference agenda and materials were arranged to provide an overview of the health research system, review the burden of disease in South Africa and consider global trends in research prioritisation. The Priority Setting process methodology that was followed in the 2006 priority setting conference was built on the methodology developed in the 1st Conference in 1996. Details of the 1996 priority setting methodology are given in Annexure 1.

4. METHODOLOGY: IDENTIFICATION AND RANKING PRIORITY PROCESS ADOPTED IN 2006

4.1 Key Presentations Towards Priority Setting

A series of presentations were made to give an overview of the health research system in South Africa and present material that could inform the setting of research priorities.

These included:

- Presentation on the Department of Health Priorities.
- Presentation on the National Burden of Disease.
- Presentation of the Priority Setting Framework for South Africa
- Presentations by the Science Councils on areas of responsibility including areas of research priorities.
- Presentations from Non Governmental Organisations
- Presentations by Donor Agencies on research funding priorities.

4.1.1 Department of Health Priorities

A presentation from the Director: the Strategic Planning Unit at the National Department of Health proposed priorities for the national health system on behalf of the Director General of Health Mr Thami Mseleku. Five priority areas were presented: service transformation plan, strengthening human resources, strengthening physical infrastructure, improving quality of care and priority health programmes. Focus areas within these broader priority areas included the attainment of the Millennium Development Goals Targets, Child Health, Maternal Health, HIV, TB and Malaria, the full implementation of the Primary Health Care (PHC) package, the implementation of the Comprehensive Plan for HIV and AIDS, reduction of the burden of diseases of lifestyle and non-communicable diseases, improved quality of care and healthy lifestyles.

4.1.2 National Burden of Disease

The Health Research Policy of South Africa stresses the importance and rationale that the burden of disease should also play a role when determining health research priorities.

Professor Debbie Bradshaw presented an overview of the burden of disease and risk factors in South Africa. The South African National Burden of Disease Study has made use of data from surveys, census and cause of death statistics together with demographic and epidemiological models to develop consistent estimates of mortality and morbidity experienced in South Africa in 2000. Disability adjusted life years (DALY's), a summary measure that combines premature mortality and disability to give a single measure of the burden of diseases are shown in Table 4.

According to Table 4, HIV and AIDS was found to be the leading cause of DALY's in South Africa, followed by homicide and violence. Tuberculosis was found to be the third leading cause of DALY's, followed by road traffic accidents. Other leading causes of DALY's were found to be diarrhoeal diseases, lower respiratory infections and malnutrition, low birth weight, conditions related to underdevelopment and resulting in high childhood mortality. In addition, asthma, stroke, depression and ischemic heart disease, conditions associated with the health transition also feature in the leading causes.

This shows the quadruple burden of disease experienced in South Africa – a combination of diseases associated with underdevelopment, the chronic diseases, injuries and HIV and AIDS.

Table 2: The Leading Twenty Causes of DALYs in South Africa, 2000

Cause	DALYs ('000)	Percentages
HIV and AIDS	5004	30.9%
Homicide and violence	1047	6.5%
Tuberculosis	600	3.7%
Road traffic accidents	492	3.0%
Diarrhoeal Diseases	462	2.9%
Lower respiratory infections	453	2.8%
Low birth weight	413	2.6%
Asthma	361	2.2%
Stroke	353	2.2%
Unipolar depressive disorder	319	2.0%
Ischaemic heart diseases	293	1.8%
Protein-energy malnutrition	215	1.3%
Birth asphyxia and birth trauma	200	1.2%
Diabetes mellitus	181	1.1%
Alcohol dependence	167	1.0%
Hearing loss, adult onset	165	1.0%
Cataracts	146	0.9%
Hypertensive heart disease	146	0.9%
Fires	143	0.9%
Falls	143	0.9%

Source: MRC Burden of Disease Research Unit

Table 3: Preliminary Comparative Risk Factor Assessment, 2000

Rank	Risk factor	% Total DALYs	Rank	Disease or injury	% Total DALYs
1	Unsafe sex/STI	31.5	1	HIV and AIDS	30.9
2	Interpersonal violence	9.1	2	Interpersonal violence	6.5
3	Alcohol	7.0	3	Tuberculosis	3.7
4	Tobacco	4.0	4	Road traffic accidents	3.0
5	High BMI	2.9	5	Diarrhoeal diseases	2.9
6	Child & Maternal underweight	2.7	6	Lower respiratory infections	2.8
7	Unsafe water sanitation & hygiene	2.6	7	Low birth weight	2.6
8	High blood pressure	2.4	8	Asthma	2.2
9	Diabetes	1.6	9	Stroke	2.2
10	Iron deficiency	1.4	10	Unipolar depressive disorders	2.0
11	High cholesterol	1.3	11	Ischemic heart disease	1.8
12	Low fruit and vegetable intake	1.1	12	Protein-energy malnutrition	1.3
13	Physical inactivity	1.1	13	Birth asphyxia and birth trauma	1.2
14	Vitamin A	0.7	14	Diabetes mellitus	1.1
15	Lead	0.4	15	Alcohol dependence	1.0
16	Urban air pollution	0.3	16	Hearing loss, adult onset	1.0
17	Indoor smoke from solid fuels	0.3	17	Cataracts	0.9

Source: MRC Burden of Disease Research Unit

Reliable and comparable analysis of risks to health is crucial for health sector response to preventing disease and injury. In contrast to identifying the underlying medical conditions, a comparative risk factor assessment identifies the most important modifiable risk factors driving the burden. This emphasises the potential for disease prevention and provides an important evidence base to help to identify risk factors that need to be targeted for interventions. The provisional results of the comparative risk factor assessment show that the loss of health in South Africa is dominated by social factors reflected in the high burden from sexually transmitted diseases related to unsafe sex, homicide, violence and alcohol (Table 5). The profile also reflects a combination of risk factors related to poverty and under-development such as under-nutrition, unsafe water, sanitation and hygiene and indoor smoke from solid fuels as well as risk factors resulting in chronic diseases such as tobacco, high blood pressure, high Body Mass Index (BMI) and high cholesterol.

4.2 Presentations from the South African Science Councils, Non-Governmental Organisations and Academic Institutions

4.2.1 Medical Research Council

The various components of the Medical Research Council (MRC) were described in the context of the over-arching research agenda of the organisation. As a statutory body, the MRC also places emphasis on the priorities identified by government in their priority setting agenda. Research priorities are aligned to the global priorities such as the Millennium Development Goals, NEPAD and health issues from the World Conference for sustainable development (WSSD) and also the national focus based on the burden of disease, ENHR approach and the strategic priorities in health and development.

4.2.2 Human Science Research Council

The Human Science Research Council's (HSRC) broad agenda as a statutory research agency is "social science research that makes a difference".

The organisation is engaged in research relating to the social aspects of HIV and AIDS, Democracy and Governance, Education, Sciences and skills Development, Urban, Rural and Economic Development, Society, Culture and Identity and Child, Youth, Family and Social Development.

The HSRC approach to priority setting in research is broad consultation with individual researchers and research programmes within the Council, other national and international research organisations, universities and the South African government. The HSRC Board approves the research priorities.

4.2.3 The Council for Scientific and Industrial Research

The Council for Scientific and Industrial Research (CSIR), which is also a statutory research agency, is involved in various health related research projects. The main focus is on chemical and industrial research as described by Dr David Walwyn. Medical and health science research accounts for about 2% of the CSIR's activities, whilst biological research accounts for about 8%. Research priorities in these areas include the Pharmaceutical Value Chain, Sensors, Geomatics and Infectious Diseases, Nutrigenomics and Pharmacogenomics and Traditional Medicine. Their approach to priority setting was also described as being consultative.

4.2.4 Centre for Health Policy

Dr Duane Blaauw described the research currently undertaken by the MRC-affiliated Centre for Health Policy, based at the University of Witwatersrand's School of Public Health. Priorities include addressing equity and improving access to the health system, overcoming human resource constraints, re-orientating health systems, enhancing critical support systems and building management and leadership. Capacity building is an important crosscutting component.

4.2.5 Health Systems Trust

Dr Irwin Friedman and Ms Fiorenza Monticelli of the Health Systems Trust presented the District Health Barometer. The new publication produced by the Health Systems Trust presents health indicators, which enable comparisons across districts and provinces and over time. The District Health Barometer considers input, output and outcome indicators and enables the identification of districts which are struggling to reach the national averages/targets

4.3 Presentations from Donors/ Funders

4.3.1 World Health Organisation

Dr Okello described the long involvement of the World Health Organisation (WHO) in health research priority setting. In developing countries, the WHO focuses on research into priority health issues of the poor, and on developing essential health interventions such as vaccines. Building research capacity in developing countries is also high on the agenda. In setting its priorities for health research and funding research proposals, the WHO assesses the current magnitude of the problem, the projected cost-effectiveness of interventions and their expected results, the relevance and policy implications of the research topic and the scientific merit of the proposal.

4.3.2 USAID Research Support in SA

Approximately \$4.5 Million was provided in South Africa during 2005. The support was to focus on operational and applied research relevant to policy change and practical application. USAID works with a variety of local and international partners. It also focuses on shorter duration projects with immediate public health application, responsive to government needs and public health challenges and capacity development and institutional strengthening.

It also supports the South African Department of Health for creation and implementation of a province-wide comprehensive antenatal and postnatal care package (KwaZulu Natal). Population Council: Family centered services to enhance pediatric ART. Reproductive Health: Engender Health, Hope Worldwide, and CASE: Testing effectiveness of community-based strategies in reducing violence and in promoting male involvement in reproductive health activities (Soweto)

According to Dr Gray Handley who presented on behalf of the United State Government (covering CDC, USAID and NIH), the USAID funding is guided by the Principles of the U.S. Research support which includes, funding decisions that are based on scientific merit through transparent, criteria-driven, peer review, strict bioethics, research integrity, scientific accountability, investment in global human and institutional research capacity (training, technology transfer, clinical research, and labs), research productivity assessed regularly for multi-year grants – management by scientific areas not countries, balance among laboratory, clinical, applied, and epidemiological research, applications from international investigators encouraged, networks, consortiums, and partnerships supported.

The following mechanisms are used to support research in South Africa:

- Direct research grants to South African investigators, institutions or consortiums
- Contracts to SA research institutions
- Grants to foreign investigators with SA partners
- Training or institutional development grants to SA organisations/academic
- Individual awards for training, project development or research dissemination
- Network grants to foster partnerships and cooperative research

Key United State Agencies that are engaged in Health Research in South Africa are:

- Department of State (oversees PEPFAR funded operations research)
- Agency for International Development (USAID)
- Department of Health and Human Services (DHHS)
- National Institutes of Health (NIH)
- Centers for Disease Control and Prevention (CDC)
- Department of Defense (Project Phidisa with SANDF)

4.3.3 National Institutes of Health

The mission of the National Institute of Health is to conduct and support basic, applied, clinical and health services research to understand the processes underlying human health and to acquire new knowledge to help prevent, diagnose, and treat human diseases and disabilities.

In order for the National Institute of Health to accomplish its mission, it focuses on conducting research in its own laboratories, supports the research of non-Federal scientists in universities, medical schools, hospitals, and research institutions throughout the country and abroad, help in the training of research investigators and foster communication of medical information.

4.3.4 CDC Research/Training Support in South Africa

The Centers for Disease Control and Prevention (CDC) provided approximately \$7 Million in 2005. The CDC Research/Training Support in South Africa was funded from CDC budget and PEPFAR. It primarily links CDC scientists and SA scientists. The funding focuses on infectious diseases of South African and global public health importance, Surveillance training and laboratory strengthening and HIV and AIDS, TB and childhood illnesses major concerns.

The PEPFAR funding is for small, critically important operational research to improve HIV and AIDS prevention, care and treatment, supports South African Comprehensive Plan priorities - in coordination with government, private, and academic institutions, focus on capacity development in research, implemented by all USG agencies together and focus on all provinces and public health systems. Full details of USAID research support in South Africa is presented in Annexure 2.

4.3.5 NIH Research Funding, South Africa in 2005

National Institutes of Health Global AIDS Research Initiatives objectives are: to increase the investment in global AIDS research, establish new funding approaches and new research opportunities, provide support for long-term research infrastructure, provide funding for development of new prevention strategies, support international conferences and workshops with scholarships for scientists from developing nations, develop and support information dissemination and translation of research results relevant to resource-poor settings, coordinate global AIDS research policy issues, support training workshops and address obstacles to conducting international research.

Approximately 28 new projects have been approved for implementation. These projects will amount to about \$30 Million in new funding for SA institutions and government laboratories/organisations. The funding subjects include: HIV and AIDS, TB, immunology, genomics, neuroimaging, FAS, vaccine development, microbicides, breast cancer, aging, traditional medicines, gender behaviors, and many others.

The United State Government Agencies future funding interest will be focused on continuing and expanding our research and training partnerships to achieve mutual scientific, public health and capacity development goals, expansion of trained scientists, research workers and research institutions, HIV and AIDS and other infectious diseases, child and maternal health issues including nutrition, expansion of

work with traditional healers, vaccine and other prevention research, behavioral research to reduce health risk and substance abuse prevention and treatment.

4.3.6 United Nations Children's Fund

Ms Joan Matji from the United Nations Children's Fund (UNICEF) presented the process in which their organisation prioritises research; that UNICEF looks at country, region and global priorities in health and development. It considers existing situations such as the burden of diseases and variety of instruments in its analysis such as government and academic reports or research papers. Consultation with partners both nationally and internationally plays an important role. The process is repeated on a regular basis.

4.3.7 Council on Health Research for Development

A presentation from the Council on Health Research for Development (COHRED) focused on priority setting for National Health Research. After describing the organisation and its philosophy, Prof. Mohammed Jeenah continued to look at the priority setting process, which should be inclusive, iterative, and linked to the allocation of public research funds (although with some funding available for investigator-driven-research). Monitoring and evaluation should be an integral part of the process, informing new priorities on a regular basis. It was noted again that the priority setting process was essentially intuitive as opposed to structure and quantifiable.

5. FRAMEWORK FOR PRIORITY SETTING 2006

The priority setting framework in Table 4 was adopted by the ENHR Conference in 2002 as developed by the Ministerial Essential National Health Research Committee. This framework was reviewed and updated with additional concerns identified in the four working groups by participants at this priority setting conference. Tables A and B in Annexure 3 shows items that were identified by the groups for inclusion into the

framework to be used for prioritisation. Table 5 shows the final framework that was used for ranking in the conference. The first part includes the list of health problems. The second part includes the list of system issues related to health services and population health

Table 4: South African Prioritisation Framework 2002

Major Health Problems			Focus of Research			
Health Challenge	Problem Cluster	Health Problem	Magnitude of Problem or Importance of Issue	Understanding the Determinants	Development & Evaluation of Interventions / policies	Implementation Research
						Operational Policy
The Unfinished Agenda	Nutrition	<ul style="list-style-type: none"> ▪ Under-nutrition ▪ Micro-nutrients deficiency ▪ Food safety 				
	Child Health	<ul style="list-style-type: none"> ▪ Perinatal mortality & morbidity ▪ Diarrhoea ▪ Parasitic diseases ▪ Breast feeding 				
	Reproductive Health	<ul style="list-style-type: none"> ▪ Teenage pregnancy ▪ Unwanted pregnancy ▪ Maternal mortality & morbidity ▪ Cervical cancer ▪ Infertility ▪ Child and Women abuse 				
Chronic Diseases and Injuries	Injuries	<ul style="list-style-type: none"> ▪ Interpersonal violence ▪ Road traffic injuries ▪ Occupational injuries 				

Major Health Problems		Focus of Research				
		Magnitude of Problem or Importance of Issue	Understanding the Determinants	Development & Evaluation of Interventions / policies	Implementation Research	
Problem Cluster	Health Problem				Operational	Policy
Chronic Diseases and Injuries	Major Non-Communicable Diseases	<ul style="list-style-type: none"> ▪ Cancers ▪ Mental Health ▪ Asthma & Chronic Obstructive Pulmonary Disease ▪ Oral Health 				
	Chronic Diseases of Lifestyle	<ul style="list-style-type: none"> ▪ Cardiovascular diseases (stroke, IHD) ▪ Diabetes ▪ Hypertension 				
	Risk Factors for Non-Communicable Diseases	<ul style="list-style-type: none"> ▪ Smoking ▪ Alcohol abuse ▪ Substance abuse ▪ Lack of exercise ▪ Over-nutrition 				
	Ageing	<ul style="list-style-type: none"> ▪ Healthy ageing ▪ Senility ▪ Arthritis 				
	Disability	<ul style="list-style-type: none"> ▪ Physical ▪ Disability 				

Major Health Problems		Focus of Research				
		Magnitude of Problem or Importance of Issue	Understanding the Determinants	Development & Evaluation of Interventions / policies	Implementation Research	Policy
Problem Cluster	Health Problem					
Occupational	<ul style="list-style-type: none"> ▪ Harmful exposures ▪ Occupational diseases 					
Stewardship	<ul style="list-style-type: none"> ▪ Goals of SA health System ▪ Decentralisation ▪ Public-Private Interactions ▪ Inter-sectoral collaboration ▪ Organisational & service cultures 					
Resources	<ul style="list-style-type: none"> ▪ Human Resources development ▪ Health Information Systems ▪ Drugs & other supplies 					
Service Delivery	<ul style="list-style-type: none"> ▪ PHC, hospitals and community based quality of care ▪ Traditional Health Care 					
Health System Transformation						

		Focus of Research					
Health Challenge	Major Health Problems		Magnitude of Problem or Importance of Issue	Understanding the Determinants	Development & Evaluation of Interventions / policies	Implementation Research	
	Problem Cluster	Health Problem				Operational	Policy
Health System Transformation	Health Systems & Populations	<ul style="list-style-type: none"> ▪ Equity in contribution, access, utilisation, participation and outcomes ▪ Health System responsiveness 					
Health & Development	Social & Economic	<ul style="list-style-type: none"> ▪ Macro- economic policies in health ▪ Poverty and inequalities ▪ Sustainable development (urban renewal and rural development) ▪ Inter-sectoral action for health 					
Health & Development	Population	<ul style="list-style-type: none"> ▪ Migration and population change ▪ Demographics and health transition ▪ Impact of ill-health on households 					

Table 5: South African Prioritisation Framework 2006

Health Challenge	Problem Cluster	Health Problem
The Unfinished Agenda	Nutrition	Under-nutrition
		Obesity
		Micro-nutrient deficiency
		Food Security
		Food Safety
	Child Health	Perinatal and neonatal mortality and morbidity
		Diarrhoea
		Lower respiratory infections
		Upper respiratory infections
		Parasitic diseases
		Breast-feeding
		Safe infant feeding
		Orphans and child headed households
		Vaccine preventable diseases (e.g. measles)
		Congenital anomalies (including genetics)
	Reproductive Health	Teenage Pregnancy
		Unwanted Pregnancy
		Contraception/emergency contraception
		Abortion
		Maternal mortality and morbidity
	Infection and Immunity	Cervical cancer
		Infertility
		Traditional circumcision
		Virginity testing
		Child and women abuse
		TB
		HIV and AIDS
		Opportunistic infections
		STIs
		Malaria
		Acute lower respiratory infections
		Diarrhoea (waterborne & food borne)
		Meningitis
Hepatitis		
Nosocomial infections (hospital acquired infections)		
Zoonoses (e.g. Avian flu, rabies, anthrax, tick bite fever)		

Health Challenge	Problem Cluster	Health Problem
Major non-communicable conditions/ diseases	Non Communicable conditions	Diabetes
		Cancers
		Common risk factors for NCDs (hypertension, lack of physical activity, overweight, smoking)
		Mental Health
		Alcohol and Substance abuse
		Asthma and chronic obstructive diseases
		Allergies
		Oral problems
	Injuries	Road traffic accidents
		Interpersonal violence (homicides, assault)
		Accidental injury/poisoning
	Ageing	Problems of ageing
		Senility
		Arthritis
	Disability	Physical disability
		Mental disability
Environmental and Occupational Health	Environmental	Pollution (air, water, atmospheric, land/ground)
		Waste Management (health care waste)
		Climate change (CO2 emissions, methane emissions)
		Housing
		Harmful exposures (chemicals, dust, asbestos, silica, radiation, paint. Organophosphates)
		Landfills and communities
	Occupational	Occupational injury, death and disability
		PTSD (police, teacher, emergency personnel)
		Occupational Diseases (e.g. Pneumoconiosis, silicosis, allergies, zoonosis)
		Decentralisation
		Public private interactions
		Policy influencing service delivery
		Health Care financing
		Inter-sectoral collaborating (inter-departmental co-ordination)
		Organisational and service cultures

Health Challenge	Problem Cluster	Health Problem
Health Systems Transformation	Strengthening human resources	Human resources development
		Human resources management (recruitment, retention and supervision)
	Physical resources	Physical infrastructure and maintenance
		Security and protection in facilities
		Emergency transport
		Transport for service delivery
	Knowledge Management	Drugs and other supplies
		Health Information Systems
		Health records, documents (road to health chart)
		Health Research Systems
		Use of ICT
	Service delivery	Primary Health Care
		Hospitals
		Community-based care (including lay health workers)
		Quality of health delivery and support systems
		Quality of care
		Termination of pregnancy services
	Health system and population	Inter-departmental collaboration
		Outcomes based care
		Surveillance and outbreak response
		Traditional health care and medicine
		Equity in contribution, access, utilisation, participation and outcomes
		Community participation and involvement
		Community information and client-provider information
		Information, education and communication, behavioural change communication, adherence education
		Monitoring and Evaluation
		Quality of morbidity and mortality data
		Health system responsiveness/ user satisfaction

Health Challenge	Problem Cluster	Health Problem
Health and Development	Social and Economic	Macro-economic policies and health
		Poverty and inequalities
		Social capital
		Household food security
		Use of social grants
		Sustainable rural development (ISRDP)
		Sustainable urban development and urbanisation
	Population	Inter-sectoral action for health
		Migration and population change
		Demographic and health transition
		Impact of ill-health on households

Step 1: Reviewing the List of Health Problems and Challenges

Careful consideration was given as to whether a problem should be added as a single item to the list or whether it is already included in the list. The 4 working groups were:

Group 1: Unfinished Agenda and health systems

Group 2: Evolving Microbial Threats (Infectious Diseases) and health systems

Group 3: Chronic Diseases and Injuries and health systems

Group 4: Environmental/ Occupational Health and health systems

All groups considered the health system list. By the end of the group session, the facilitator compiled a group list of changes that were made to the list. See Annexure 3

Step 2: Ranking of Health Problems and Health System Issues

Using the newly consolidated framework based on step 1, delegates were asked to identify their top 10 health problems that needed research. A score ranging from 10 to 1 in order of importance was allocated. A score of 10 was given to the most important problem and a score of 1 was given to the least important problem. The working groups were also requested to identify top 10 health system issues that need research using the same procedure. After voting was done, the voting sheets were collected, data captured and analysed on excel spreadsheets.

Step 3: Identification of important research questions to address health problems

In breakaway groups, the delegates were asked to start the process of identifying the research questions for the health problems that were listed in the clusters. It was made clear to participants that this step was the initial process that would require further input.

Delegates selected health problems and discussed what the focus of the research needed to be.

The broad areas of research focus were listed as:

- how big is the problem
- understanding the determinants of the problem (biomedical or psychosocial)developing and evaluation interventions
- operational research
- policy research

Step 4: Identification of important research questions to address health systems transformation

In the same breakaway groups, delegates were also asked to start the process of identifying the research questions for the health system issues.

6. PRIORITY SETTING RESULTS

The table below represents scoring of issues using the Prioritisation Framework. The framework includes also additional items identified as important for addition to the original framework for prioritisation.

Table 6: Conference Voted Prioritization Framework Issues

Health Challenge	Problem Cluster	Health problem	Score	Count
The Unfinished Agenda	Nutrition	Under-nutrition	146	25
		Obesity	79	16
		Micro-nutrient deficiency	37	7
		Food Security	56	11
		Food Safety	52	9
	Child Health	Perinatal and neonatal mortality and morbidity	151	24
		Diarrhoea	46	8
		Lower respiratory infections	35	6
		Upper respiratory infections	31	5
		Parasitic diseases	16	3
		Breast-feeding	33	7
		Safe infant feeding	64	12
		Orphans and child headed households	132	25
		Vaccine preventable diseases (e.g. measles)	69	12
		Accidental injury/poisoning	26	5
		Congenital anomalies (including genetics)	56	9
		Reproductive Health	Teenage Pregnancy	62
	Unwanted Pregnancy		23	5
	Contraception/emergency contraception		24	4
	Abortion		41	6
	Maternal mortality and morbidity		130	21
	Cervical cancer		31	7
	Infertility		15	3
	Traditional circumcision		9	7
	Virginity testing		28	5
	Child and women abuse		65	12

Health Challenge	Problem Cluster	Health problem	Score	Count
Evolving Microbial Threats	Infection and immunity	TB	320	44
		HIV and AIDS	410	49
		Opportunistic infections	66	10
		STDs	70	12
		Malaria	95	18
		Acute lower respiratory infections	44	8
		Diarrhoea (waterborne & food-borne)	114	23
		Meningitis	35	7
		Hepatitis	27	5
		Nosocomial infections (hospital acquired infections)	79	15
		Zoonoses (e.g. Avian flu, rabies, anthrax, tick bite fever)	70	14
Chronic Disease and Injuries	Injuries	Road traffic accidents	121	18
		Interpersonal violence (homicides, assault)	168	25
	Major non-communicable diseases	Cancer	108	20
		Mental Health	126	27
		Asthma and chronic obstructive diseases	49	9
		Allergies	37	6
		Oral health	23	5
	Chronic diseases of lifestyles	Cardiovascular diseases (stroke and heart)	135	22
		Diabetes	51	11
		Common risk factors for NCDs (hypertension, lack of physical activity, overweight, smoking)	140	25
	Ageing	Alcohol abuse	45	8
		Substance abuse	77	15
		Healthy ageing	57	12
	Disability	Senility	17	3
		Arthritis	21	5
		Physical disability	31	7
Mental disability		27	6	

Health Challenge	Problem Cluster	Health problem	Score	Count
Environmental and Occupational Health	Environmental	Pollution (air, water, atmospheric, land/ground)	71	14
		Waste Management (health care waste)	68	12
		Climate change (CO ₂ emissions, methane emissions)	27	5
		Housing	57	11
		Landfills and communities	19	5
		Harmful exposures (e.g. organophosphates)	33	9
	Occupational	PTSD (police, teacher, emergency personnel)	54	10
		Occupational Diseases (e.g. Pneumoconiosis, silicosis, allergies, zoonosis)	26	7
		Occupational injury, death and disability	62	15
		Harmful exposures (chemicals, dust, asbestos, silica, radiation, paint. Organophosphates)	61	13
Health Systems Transformation	Stewardship	Decentralisation	81	12
		Public private interactions	78	13
		Policy influencing service delivery	93	17
		Health Care financing	164	27
	Strengthening human resources	Inter- sectoral collaboration (inter-departmental co-ordination)	58	9
		Organisational and service cultures	31	6
		Human resources development	199	29
		Human resources management (general)	262	38
		Recruitment, retention and supervision	100	14
	Physical resources	Physical infrastructure and maintenance	104	19
		Security and protection in facilities	46	9
		Emergency transport	63	11
		Transport for service delivery	19	5
		Drugs and other supplies	98	23

Health Challenge	Problem Cluster	Health problem	Score	Count
Health Systems Transformation	Knowledge Management	Health Information Systems	242	38
		Health records, documents (road to health chart)	85	15
		Health Research Systems	65	13
		Use of ICT	44	7
	Service delivery and service Transformation plan	Hospitals	110	16
		Primary Health Care	140	22
		Community-based care (including lay health workers)	63	11
		Quality of health delivery and support systems	157	25
		Quality of care	167	27
		Termination of pregnancy services	53	9
		Inter-departmental collaboration	70	13
		Outcomes based care	39	9
		Surveillance and outbreak response	102	18
		Traditional health care and medicine	95	19
	Health system and population	Equity in contribution, access, utilisation, participation and outcomes	139	25
		Community participation and involvement	96	18
		Community information and client-provider information	38	9
		Information, education and communication, behavioural change communication, adherence education	134	25
		Monitoring and Evaluation	155	31
		Quality of morbidity and mortality data	126	19
		Health System responsiveness/ user satisfaction	47	10

Health Challenge	Problem Cluster	Health problem	Score	Count
Health and Development	Social and Economic	Macro-economic policies and health	67	10
		Poverty and inequalities	149	22
		Social capital	26	5
		Household food security	60	10
		Use of social grants	81	18
		Sustainable rural development (ISRDP)	71	14
		Sustainable urban development and urbanisation	43	6
		Intersectoral action for health	33	8
	Population	Migration and population change	53	14
		Demographic and health transition	39	11
		Impact of ill-health on households	76	19

Table 7 shows a comparison of top 15 leading health problems challenges that require research as ranked by delegates in 1996 and 2006 respectively.

It can be noted that while HIV and AIDS ten years ago was identified as a health problem it was not considered requiring first priority as compared to 2006 rankings. The challenge of growing numbers of orphans and child headed households was also reflected in the 2006 ranking but was not considered in the rankings in 1996. Also noticeable is that while injury remains one of the leading causes of death, it still remains high in the priority list. Diseases of life-style are increasingly being recognized as health problems in South Africa. While risk factors such as hypertension, smoking, overweight alcohol etc were not rated in the top health problems in 1996, these are now rated within the top 10, as well as cardiovascular diseases.

Table 7: The Fifteen (15) leading Health Problems or challenges for research in 1996, 2006 and RDP priorities

Condition	1996 Ranking	2006 Ranking
HIV and AIDS	4	1
Injuries (all causes)	1	2
Tuberculosis	2	3
Diarrhoea (all causes)	7	4
Perinatal & neonatal mortality	-	5
Nutrition	3	6
Common risk factors (Hypertension, smoking, overweight, alcohol etc)	-	7
Cardiovascular diseases	-	8
Orphans & Child headed households	-	9
Maternal Morbidity & Mortality	-	10
Mental Health	9	11
Cancer	6	12
Malaria	10	13
Respiratory infections (all)	8	14
Sexually Transmitted Infections	5	15

The 2nd Priority Setting Conference is the first to rank health system and development issues. Table 8 shows that a mix of human resources, stewardship, knowledge management, service delivery and social factors were prioritized. Table 8 above represent health systems and development issues identified during the prioritization process.

Table 8: The Ten (10) leading health system and development issues needing research in 2006

Health Systems Issue	2006 Ranking
Human resources management	1
Health information systems	2
Human resource development	3
Quality of care	4
Health care financing	5
Quality of health delivery and support systems	6
Monitoring and evaluation	7
Poverty and inequalities	8
Primary health care	9
Information, education, communication, adherence education	10

7. IDENTIFYING BROAD RESEARCH AREAS

The next step in setting priorities was to carefully specify the problems within each research priority area and identify broad research areas. This is a time consuming exercise and could only be partially achieved during the Conference.

The process was completed by consultation with research groups and experts and will need annual review. These broad research areas will need further scaling down to specific research questions.

Tables 9, 10 and 11 identify broad research areas by discipline. These include some research questions to respond to the 15 identified priorities at the Conference

Table 9: Broad Research Areas by Discipline HIV & AIDS, STIs and Malaria (1996 and 2006)

Disease Condition Research Type	HIV and AIDS	TB	Malaria
Basic Research	<ol style="list-style-type: none"> 1. Rapid test 2. Congenital STD detection 3. Syndromes treatment 4. Asymptomatic detection 5. Diagnostics for HIV & AIDS 6. Prevalence studies 7. HIV Incidence Studies 8. Research to improve validity of the syndromic approach 9. Listing of traditional Medicines 10. Pharmacopoeia of Traditional Medicines 11. Prediction of possible interaction, toxicity through antagonism, synergistic or additive effects with any treatment of HIV & AIDS 12. Prevalence of HSV2 in general population & trends analysis from stored sera 	<ol style="list-style-type: none"> 1. Rapid disease diagnosis New diagnostics for TB 2. Early Detection of MDR & XDR 3. Detection in children 4. Detection of re-infection vs. reactivation 5. Determination of specimen quality 6. Identification of BCG strains for vaccine development 7. Identification of individual susceptibility 8. Development of new TB Drugs 9. Prevalence studies for TB and MDR-TB (including HIV prevalence among TB) 10. Identification of individual susceptibility 	<ol style="list-style-type: none"> 1. New diagnostics for Malaria 2. Identification, behaviour and susceptibility of vectors 3. Outbreak predictions 4. Improved diagnostic tools for malaria 5. Pharmacopoeia of traditional medicines 6. Listing of Traditional Medicines 7. Traditional therapies & other means of therapy outside western medicines

<p>Basic Research</p>	<p>13. Development of vaccines against many mutating HIV strains</p> <p>14. Further development & testing of effective, affordable & acceptable vaginal Microbicides</p>		
<p>Clinical Research</p>	<p>1. Congenital STD Detection</p> <p>2. Syndromic Treatment</p> <p>3. ART for HIV-infected patients with TB (PK)</p> <p>4. ARVs and steroid hormone contraception interaction</p> <p>5. Studies of the impact of HSV2 treatment on HSV2-related disease, vertical transmission and HIV incidence</p> <p>6. Clinical investigations of the long term safety, efficacy side effects of medical technologies such as antibiotic treatments for STIs including ARVs for HIV and AIDS</p> <p>7. HIV, AIDS & STIS Drug Resistance Surveillance</p> <p>8. Vaginal Microbicides: clinical safety, acceptability and resistance studies</p> <p>9. Effectiveness studies of condom for bacterial and</p>	<p>1. Alternative drug delivery systems</p> <p>2. BCG vaccine efficacy</p> <p>3. Rx shortening) and 4FDC vs. loose (Rx simplification)</p> <p>4. ART for HIV-infected patients with TB</p> <p>5. Preventive therapies for TB</p> <p>6. TB infection control in care and congregate settings</p> <p>7. TB Screening and Referral in ARV sites (including information systems to monitor screening of TB in HIV)</p> <p>8. Big screening at Free-standing Counselling and Testing Sites</p> <p>9. TB Drug resistant studies</p>	<p>1. Efficacy, acceptability and type of therapy and prophylaxis</p>

<p>Clinical Research</p>	<p>non-bacterial STI prevention</p> <p>10. Research on preventive vaccines</p> <p>11. Pharmacovigilance of ARVs including antibiotics used in STIs</p> <p>12. Pharmacokinetics of ARVs</p> <p>13. Acceptability of female condom for prevention of pregnancy, STIs, and HIV and prevention</p>	<p>10. Integrated TB and HIV Services (best practices and models)</p> <p>11. TB Case holding management and systems</p> <p>12. Antiretroviral therapy to TB patients</p>	
<p>Social Science</p>	<p>1. Condom use and its impact on HIV, AIDS, STIs reduction</p> <p>2. Asymptomatic detection</p> <p>3. Patient Behaviour</p> <p>4. Health worker issues</p> <p>5. Vertical transmission</p> <p>6. Socio-economic impact assessment</p> <p>7. Socio-economic impact assessment</p> <p>8. Youth and Adult Risk Behaviour Studies</p> <p>9. Cost effectiveness of current step down care services</p>	<p>1. Identification of environmental and social determinants of disease</p> <p>2. Economic Model for TB management</p> <p>3. Cost effectiveness of DOTS</p> <p>4. Cost effectiveness of TB preventive therapy</p> <p>5. Cost effectiveness of Oral vs. intra-dermal BCG</p> <p>6. Assessment of stigma related to TB</p> <p>7. Community participation and involvement TB management and prevention</p> <p>8. Monitoring and Evaluation TB regimens and treatment</p> <p>9. Socio-economic impact assessment of TB, MDR- TB, XDR- TB</p>	<p>1. Identification of environmental and social determinants of malaria</p> <p>2. Economic Model for Malaria management</p> <p>3. Cost effectiveness of malaria treatment and regimens</p> <p>4. Monitoring and Evaluation of the management of malaria</p> <p>5. Community participation and involvement in malaria treatment and prevention</p> <p>6. Socio-economic impact assessment of malaria</p>

<p>Social Science</p>	<p>10. Cost effectiveness of Regimen for the prevention of mother to child transmission(PMTCT)</p> <p>11. Assessment of impact of STI/RTI interactions on susceptibility to HIV</p> <p>12. Models of care and support for HIV and AIDS infected and affected individuals and groups</p> <p>13. Impact of use of social grants for HIV. AIDS patients</p> <p>14. Research into relationship between information and risk taking behaviour among adolescents and adults</p> <p>15. Community participation and involvement in HIV, AIDS, STIs management and prevention</p> <p>16. Longitudinal studies on male circumcision and HIV prevention</p> <p>17. Longitudinal studies on the impact of ART</p> <p>18. Socio-economic impact assessment HIV and AIDS</p> <p>19. Cost-effectiveness and implementation of different STI control strategies in selected special populations (e.g. workers, MSM, substance users, miners, migrant populations)</p>	<p>10. Assessment of dual stigma related to TB and HIV (in regards to access to care, acceptance of counselling and testing, provision of comprehensive care, etc)</p>	
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<p>Health Systems, Public Health and Policy Research</p>	<ol style="list-style-type: none"> 1. Policy development and evaluation 2. Socio-economic impact assessment 3. Models of care 4. Policy development and evaluation 5. Health worker issues 6. Post exposure prophylaxis 7. Ethical /legal issue 8. Supervision (quality of care 9. Improve Surveillance of HIV, AIDS and STIs 10. Integration of PMTCT into maternal and child health services 11. Models for the provision of high quality STI services for sex workers 12. Impact of care and support services 	<ol style="list-style-type: none"> 1. Identification of Environmental risk factors 2. Feasibility of on site treatment 3. Improved information systems 4. Identification of Environmental Risk factors 5. Feasibility of on site treatment 6. TB information systems (inc HIV in TB) 7. Quality of care including infection control surveillance 8. Mortality among MDR TB treatment defaulters, default risk factors for patients and in health system 9. Patient knowledge of MDR-TB, XDR-TB and its transmission 	<ol style="list-style-type: none"> 1. Efficacy, appropriateness and quality of surveillance systems 2. Appropriate diagnostic guidelines 3. Health care workers attitudes to identification and treatment 4. Efficacy, appropriateness and quality of surveillance systems 5. Appropriate diagnostic guidelines 6. Health care workers attitudes to identification and treatment 7. Outbreak prediction 8. Cross border control of malaria 9. Status of EPR in South Africa at levels of health system 10. Tools to evaluate malaria control programmes at all levels 11. Improve Surveillance and outbreak response of Malaria
<p>Health Systems, Public Health and Policy Research</p>	<ol style="list-style-type: none"> 13. Models for the provision of high quality STI/RTI services for Adolescents 14. Operations research on the provision of high-quality STI/RTI services for adolescents 15. Models for provision of high quality STI/RTI services for prisoners 16. Impact of HIV and AIDS on health services and other sectors 		

Table 10: Broad Research Questions by Discipline for Diarrhoea and Respiratory Infections, Acute Respiratory Infection and Infectious Diarrhoea (1996 and 2006)

Disease Condition Research Type	Diarrhoea and Respiratory Infections	Acute Respiratory Infection	Infectious Diarrhoea
Basic Research	<ol style="list-style-type: none"> 1. Vaccine Development for HiB, Measles and pneumonia 2. Identification of antibiotic resistance 3. Aetiology and strain Identification 4. Methods for the detection of Rotavirus and routes of transmission 5. New diagnostic kits 6. Effective vaccines 7. Diagnostic indicators to distinguish between osmotic and secretory diarrhoea 8. Epidemiology of diarrhoea :role of secondary transmission vs. point source outbreak case-control 	<ol style="list-style-type: none"> 1. Identification of resistance factors in ARI 2. Aetiology and strain identification 3. Improve the Specificity of clinical diagnostic criteria. 4. New diagnostic kits 5. Effective vaccines and drugs 6. Specificity of clinical overlap for malaria and pneumonia diagnosis 	<ol style="list-style-type: none"> 1. Aetiology and strain identification 2. Methods for the detection Rotavirus and routes of transmission 3. Diagnostic indicators to distinguish between osmotic and secretory diarrhoea 4. New test kits

<p>Clinical Research</p>	<ol style="list-style-type: none"> 1. Interaction of infectious agents with predisposing illness 2. Improved compliance 3. Vaccine effectiveness 4. Rotavirus vaccine testing 5. Monitoring vaccine efficacy and standard 6. Interaction of infectious agents with predisposing illness 7. Vaccine safety and effectiveness 8. Systematic reviews of interventions 	<ol style="list-style-type: none"> 1. Effectiveness of chemotherapy 2. Clinical trials on pneumococcal vaccines 3. Clinical trials on pneumococcal vaccines 4. Identification of risk and resistance factors in ARI 5. Vaccine safety and effectiveness 6. Systematic reviews of interventions 	<ol style="list-style-type: none"> 1. Rotavirus vaccine testing 2. Cost effectiveness of Rotavirus vaccine 3. Monitoring vaccine efficacy and standards 4. Interaction between substance abuse and nutritional status 5. Development of nutritional status assessment methods 6. Interaction of infectious agents with predisposing illness 7. Vaccine safety and effectiveness 8. Systematic reviews of interventions
<p>Social Sciences Research</p>	<ol style="list-style-type: none"> 1. Identification of lifestyle risk factors 2. Identification of factors for compliance with therapy 3. Identification of lifestyle risk factors: housing and sanitation 	<ol style="list-style-type: none"> 1. Identification of ARI risk factors: housing, overcrowding, pollution 	<ol style="list-style-type: none"> 1. Identification of lifestyle risk factors: housing and sanitation 2. Monitoring of nutritional status in the population 3. Development of nutritional status assessment methods 4. Impact of nutritional support on TB treatment outcomes
<p>Health Systems, Public Health and Policy Research</p>	<ol style="list-style-type: none"> 1. Pollution avoidance 2. Risk factor identification 3. Assessment of vaccine cost, accessibility, availability and effectiveness 	<ol style="list-style-type: none"> 1. Identification of ARI risk factors 2. Cost effectiveness of chemotherapy 	<ol style="list-style-type: none"> 1. Cost effectiveness of Rotavirus vaccine 2. Evaluation of Oral Rehydration therapy 3. Effective systematic reviews 4. Monitoring of vaccine efficacy and Standards.

Table 11: Broad Research Questions by Discipline for Nutrition and Cancers (1996 and 2006)

Disease Condition Research Type	Nutrition	Cancer
Basic	<ol style="list-style-type: none"> 1. Food Safety 2. Bioavailability of nutrients 3. Malabsorption 4. Competing nutrient demands 	<ol style="list-style-type: none"> 1. Improved detection of aetiology 2. Improved methods of cytological screening including visual detection 3. HPV vaccines 4. New cancer diagnostic and screening tools 5. New cancer diagnostic and screening tools
Clinical	<ol style="list-style-type: none"> 1. Interaction between substance abuse and nutritional status 2. Development of nutritional status assessment methods 	<ol style="list-style-type: none"> 1. Risk factor identification for oesophageal cancers 2. Effectiveness of cervical cancer treatment 3. Effectiveness of cervical cancer screening programmes and treatment 4. Clinical Trials on new cancer diagnostics, vaccines and drugs 5. Effective Clinical diagnosis and treatment of cancers 6. Application of HPV vaccines in the clinical settings 7. Management of side effects and drug resistance in cancers
Social Sciences Research	<ol style="list-style-type: none"> 1. Food security KAP study 	<ol style="list-style-type: none"> 1. Development of cancer prevention strategies 2. Cost utility studies of interventions based on length of life, QOL and financial meta-analyses 3. Cost effectiveness of chemotherapy 4. Economic implications of cancers

Disease Condition Research Type	Nutrition	Cancer
Social Science Research		5. Behavioural studies including cultural aspects of cancer pathogenesis, treatment and prevention 6. Behavioural studies including cultural aspects of cancer pathogenesis, treatment and prevention 8.
Health Systems, Public Health and Policy Research	1. Prevalence rates of nutritional disease 2. Development of nutritional status assessment methods 3. Impact of programme implementation 4. Development of monitoring tools 5. Interaction between substance abuse and nutritional status	1. Improved surveillance system for identification of incidence and prevalence 2. Effectiveness of cervical cancer screening programmes 3. Cost utility studies of interventions based on length of life, QOL and financial meta-analyses

Table 12: Broad Research Questions by Discipline for Maternal Morbidity and Mortality, Perinatal and Neonatal Mortality (1996 and 2006)

Disease Condition Research Type	Maternal Morbidity and Mortality	Perinatal and Neonatal Mortality
Basic Research	1. Magnitude and burden of leading causes of maternal morbidity and mortality	1. Magnitude and burden of leading causes of perinatal morbidity and mortality
	2. Fundamental or basic science research on pre-eclampsia, pre-term delivery	
	3. Pathophysiology and pharmacokinetic Mechanisms of pregnancy Pathologies	
	4. Measurement and sequencing of maternal deaths	
	5. Technologies for the provision of basic emergency obstetric care	
	6. Studies of fetal growth focusing on outcomes based on ultrasonography, immunological and genetic essays	
	1. Effective and evidence-based preventive and therapeutic interventions to reduce major causes of maternal morbidity and mortality	
	2. Systematic reviews of maternal interventions	
	3. Clinical trials for prevention and treatment of pre-eclampsia and other pregnancy related conditions	
	4. Measurement of the impact of maternity care services through surveillance systems	

	Maternal Morbidity and Mortality	Perinatal and Neonatal Mortality
Clinical Research	1. Effective and evidence-based preventive and therapeutic interventions to reduce major causes of maternal morbidity and mortality	1. Effective and evidence-based preventive and therapeutic interventions to reduce major causes of =newborn morbidity and mortality
	2. Systematic reviews of maternal interventions	2. Systematic reviews of perinatal interventions
	3. Clinical trials for prevention and treatment of pre-eclampsia and other pregnancy related conditions	
	4. Measurement of the impact of maternity care services through surveillance systems	
	5. Systematic Reviews of antiretroviral therapy and treatment of opportunistic infections in pregnant and lactating women	
Social Science	1. Monitoring and evaluating national progress toward the attainment of the MDGs in maternal and infant (newborn) health.	1. Population based studies on low birth weight and its determinants
	2. Systematic Reviews of antiretroviral therapy and treatment of opportunistic infections in pregnant and lactating women	2. Studies to explore relationship between prematurity and IUGR and neonatal morbidity and causes of death
		3. Contribution of low birth weight, prematurity and IUGR on neonatal mortality and morbidity

Disease Condition Research Type	Maternal Morbidity and Mortality	Perinatal and Neonatal Mortality
Health Systems, Policy and Public Health	1. Map effective interventions to improve the quality of services	
	2. Monitoring and evaluation of standards for maternal and neonatal care	
	3. Strengthening emergency, obstetric care and referral care for mothers and newborns	
	4. Audits of maternal deaths and life threatening complications	
	5. Staffing norms and strategies necessary to provide key maternal and neonatal health services and interventions	
	6. Implementation and evaluation of a new, evidence based maternal health programmes at the district health level	
	7. Monitoring and evaluation of the quality of services for mothers,	
	8. Assess impact of uptake and effectiveness of PMTCT	

Table 13: Broad Research Questions by Discipline for Mental Health and Violence or Injuries (1996 and 2006)

Disease Condition Research Type	Mental Health	Violence
Clinical Research	<ol style="list-style-type: none"> 1. Identification and management of mental health problems among health care workers 	<ol style="list-style-type: none"> 1. Cost effectiveness of clinical management of injury from violence
Social Sciences Research	<ol style="list-style-type: none"> 1. Development of interventions for the integration of the disabled 2. Development of culturally appropriate intervention 3. Counselling skills for Health Care workers 4. Development of community based interventions 	<ol style="list-style-type: none"> 1. Resource needs of the criminal justice system to decrease injury rates 2. Training and sensitising police in dealing with injury
Health Systems, Public Health And Policy Research	<ol style="list-style-type: none"> 1. Development of community based interventions 2. Incidence of teenage suicide 3. Integration of mental health into PHC 4. Integration of traditional healers into the Mental Health Services 	<ol style="list-style-type: none"> 1. integrated inter-sectoral pilot programmes <ul style="list-style-type: none"> - use of trauma centres as a site for police presence - impact of education and recreational facilities on sexual abuse and violence among youth 2. Training of HCW to deal with injuries 3. Effectiveness of compensation system for all injuries 4. Economic and social impact of injuries 5. Development of cost effective management interventions for dealing with injuries and violence 6. Legislation effectiveness 7. Development of a surveillance system and strategies for injury and violence prevention and legislation implementation

8. CLOSING ADDRESS BY THE MINISTER OF HEALTH

The Minister of Health, Dr Manto Tshabalala-Msimang, gave a key closing address of the conference. The Minister focused on the importance of high ethical standards in conducting research. The Minister noted the fact that many communities in South Africa within whom research was conducted were poor with a low level of literacy and lacked the skills to question more sophisticated researchers. The Minister emphasised that we all need to ensure that such communities and individuals were protected.

The Minister further mentioned that National Health Research Ethics Council was in the process of being established, in accordance with the Health Act, Act No. 61 of 2003. The Minister stressed that the health needs of vulnerable communities should also be prioritised when setting the research agenda.

The Minister further highlighted the importance of investing resources and efforts into research and development of African Traditional Medicines, which, is an integral part of African history and culture.

The Minister noted that priority setting should be a “broad-based, interactive, continuous process that ensures equitable health development”, and also that “setting priorities without community participation would be meaningless”.

9. CONCLUSION

In conclusion the conference achieved its objectives of consulting with experts and representatives from academic, research institutions, NGO's and community based organisations and government representatives in order to: (a) obtain insight on research currently being undertaken by various research institutions in the country, (b) review priorities that were set during the 1st Essential National Health Research Congress in 1996, and to set new priorities for health research in South Africa.

The health research priority setting framework, encompassing health problems and health system issues, was adapted to incorporate the current health problems as well as the strategic plans of the Department of Health.

A set of health priority problems was generated as well as a set of health system and development issues.

The newly generated list of priorities need further consideration by the National Health Research Committee.

10. RECOMMENDATIONS

- It will be important to devise a mechanism to extend the consultation process and obtain input from all the stakeholders.
- In addition, it will be necessary to establish a process to undertake the problem specification needed to identify a research agenda to respond to the prioritised problems.
- Mechanisms to disseminate the priorities are needed as well as mechanisms to monitor health research expenditure and outcomes.
- Research priority setting to be reviewed at least every 5 years.

ANNEXURE 1

Table 14: Priorities of Science Councils/Academic Institutions

Medical Research Council (MRC)	Human Sciences Research Council (HSRC)	Council for Scientific and Industrial Research	Centre for Health Policy (CHP)
<ul style="list-style-type: none"> • HIV and AIDS • Tuberculosis • Malaria • Cancer • Cardiovascular Diseases • Diabetes and Metabolic Diseases • Women, Maternal and Child Health • Crime, Violence and Injury • Policy and Implementation • African Health IKS and Drug Development • Mental Health and Functioning • Genomics, Proteomics and Computational Biology 	<ul style="list-style-type: none"> • Social Aspects of HIV and AIDS • Democracy and Governance • Education, Science and Skills Development • Society, Culture and Identity • Child, Youth, Family and Social Development 	<ul style="list-style-type: none"> • Traditional Medicine • The pharmaceutical Value Chain • Sensors • Geomatics and Infectious diseases • Nutrigenomics and Pharmacogenomics 	<ul style="list-style-type: none"> • Addressing equity • Improving access • Overcoming human resources constraints • Reorientation of health systems to new demands • Developing critical support systems

ANNEXURE 2

Table 15: Priorities of Donors/Funders in South Africa

World Health Organisation (WHO)	USAID	UNICEF	COHRED
<ul style="list-style-type: none"> • Research activities strongly related to health issues of priority to the poor and disadvantaged in developing countries • Research to develop essential health interventions e.g. new and improved drugs, diagnostics, and vaccines • Building research capacity in low and middle income countries • Standardization of research methods and technologies • Generating and synthesizing knowledge • Developing new or improved public health tools • Improved research management and skills 	<ul style="list-style-type: none"> • HIV Prevention • HIV and TB • C & T • Malaria <p><u>CDC</u></p> <ul style="list-style-type: none"> • PMCT • Antiretroviral Therapy • TB and HIV services <p><u>NIH</u></p> <ul style="list-style-type: none"> • AIDS Research Initiatives • HIV • TB • Immunology • Genomics • Neuroimaging • FAS • Vaccine development • Microbicides • Breast cancer • Aging • Traditional medicine • Gender issues 	<ul style="list-style-type: none"> • HIV and AIDS and child survival • Orphans and Vulnerable children • Violence against Children and Women • Education and Youth • Child Poverty 	<ul style="list-style-type: none"> • Provide technical assistance in health systems research and priority setting in poor countries/regions and populations • Provide tools, methods, advice, process, approaches, support and financing in research • Optimise health research potential in order to improve health • Reduce health inequalities • Generate economic and social prosperity

ANNEXURE 3

Table A: Items Identified by Groups for Inclusion in the Framework

Group 1: Unfinished Agenda	Group 2: Evolving Microbial Threats (Infectious Diseases)	Group 3: Chronic Diseases and Injuries	Group 4: Environmental and Occupational Health
<ul style="list-style-type: none"> • CTOP services – unwanted pregnancies, abortions • Child headed families/households • Congenital abnormalities • Safe infant feeding • Acute Respiratory infections • Upper respiratory infections • Lower respiratory infections • Neonatal mortality rates • Vaccine preventable diseases • Measles • Obesity/over nutrition • Nutrition linked diseases • Food security • Non-accidental injuries and poisoning • Accidental injuries • Traditional circumcision • Virginity testing 	<ul style="list-style-type: none"> • TB: • Drug resistance (MDR-TB) • High incidence/high burden of disease • Priority health problem • Poverty related disease • HIV and AIDS: • Drug resistance (not currently a problem but anticipated) • Impact on orphans & vulnerable individuals • Rollout of ARVs • Risky sexual behaviour • Life expectancy reduced • Impact on fertility • Community involvement and participation • Vaccines • Stigma • STIs • Predisposition to HIV • Very common • Cause infertility • Diarrhoeal problems: • Important cause of infant mortality • Epidemiological trends (determine extent of problem which appears to be increasing) • Development of a vaccine (for rotavirus) • Hepatitis • Epidemiological studies to assess burden of disease • Poor notification of Hepatitis • Zoonoses • Opportunistic infections in all ICI 	<ul style="list-style-type: none"> • Recommendations to include the following to the new 2006 framework • Allergies • A new problem cluster with occupational diseases • Common risk factors for NCDs should be combined as the interventions and management need to be considered in a comprehensive manner • Diet and hyperlipidemia should be added. • Mental disability • Congenital anomalies to the child health cluster 	<ul style="list-style-type: none"> • Air pollution (indoor and Ambient) • Water pollution • Atmospheric pollution (outdoor, smoke, exhaust, ETS, fire, industrial, hospital acquired) • Land/ground pollution • Waste management (health Care waste) • Climate change (CO2, emissions, Methane from dumps) • Housing (structure, size, impacts) • Harmful exposures (mining-pneumoconiosis-asbestos, silicosis, lung cancer – mesothelioma, HCWs exposures, SMMEs – exhaust, spray- painting oil-painting) • Radiation exposure • Dust (dirt roads, mine dumps) • Chemicals (mercury, pesticides, industrial, oncology drugs) • Scavenging at dumps (socio-economic exposures) • Occupational Priorities • Asthma • Hearing loss • Vision • PTSD (police, teachers, emergency personnel) • Occupational injuries • Mercuric poisoning • Allergies (latex, • MVA (Taxi, Truck drivers)

<p>Group 1: Unfinished Agenda</p>	<p>Group 2: Evolving Microbial Threats (Infectious Diseases)</p> <ul style="list-style-type: none"> • Underreporting • Affects poorer community • Globalisation causing more rapid spread of more pathogenic infections • Food zoonoses increasing • Rabies • Determine significance of these different zoonoses in different communities • Meningitis • Major cause of mortality and morbidity at the extremes of age • Severity of complications • Highly infectious • Pneumococcal meningitides preventable by vaccine • Opportunistic infections • Linked to HIV and AIDS • Acute CMV and PCP major causes of mortality • LRTIs • Major cause of child mortality • Treatment issues • Drug resistance • Zoonoses • Mostly affect poor communities • Lack of awareness • Under-reporting 	<p>Group 3: Chronic Diseases and Injuries</p>	<p>Group 4: Environmental and Occupational Health</p> <ul style="list-style-type: none"> • Back injuries (HCWs) • Disabilities • Lead poisoning
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<p>Group 1: Unfinished Agenda</p>	<ul style="list-style-type: none"> • Emerging zoonoses as a result of globalization and increased movement of people and animals • Need to determine prevalence in human populations • Determine modes of transmission • Cause opportunistic infections in the immuno-compromised • Possible use in bioterrorism 		
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Table B: Health Systems Identified by Groups

Group 1: Unfinished Agenda	Group 2: Evolving Microbial Threats (Infectious Diseases)	Group 3: Chronic Diseases and Injuries	Group 4: Environmental and Occupational Health
<ul style="list-style-type: none"> • Social Capital • HHFS (food security) • Supervision (quality of care) • Human resource development • Policy influencing service delivery • The use of road to health chart by various departments • Emergency transport • Transport for service deliverers • Monitoring and Evaluation • Use of social grants 	<ul style="list-style-type: none"> • TB low cure rates: Lab issue? Drugs? Social issue? (Poverty, education) • Roll-out of ARVs • Integration of HIV services (HBC, disability grants, education, integration into comprehensive PHC package) • Traditional therapies & other means of therapy outside conventional health care systems • Evaluation of the District Health System: Is it operating, as it should? • Increase research capacity in both academia and routine health services as a tool to improve service delivery and publish results in peer review journals: • Research to improve quality of care • Brain drain • Adverse coping mechanisms by health professionals: (A large component of drugs get pilfered by health care workers) • Closer collaboration between Dept of Agriculture and Health at district level specifically community animal and community health workers 	<ul style="list-style-type: none"> • Recommendations for modification on the Health Systems section • Under equity include knowledge • Health system responsiveness – add user satisfaction • Communication information (client provider interaction) • Outcome based care 	<ul style="list-style-type: none"> • Inspection and monitoring of health delivery systems • Transformation plan • Strengthening of HR • Identify and audit staff establishments • Strengthening physical infrastructure • Quality of health care • Priority health programmes • Identify, audit and upgrade worst facilities

Group 1: Unfinished Agenda	Group 2: Evolving Microbial Threats (Infectious Diseases)	Group 3: Chronic Diseases and Injuries	Group 4: Environmental and Occupational Health
<ul style="list-style-type: none"> • Community participation and involvement • Organisation of various community based lay health workers • Health management – supervisions • Facility management – physical building • Quality of morbidity and mortality data • The use of ICT • Change management in ICT • Record or document management • Use of IEC • Recruitment and retention strategies • Security in facilities • Disposal of health waste) • Intergovernmental co-ordination • • Knowledge management • Integration of Knowledge synthesis between public and private sector 	<ul style="list-style-type: none"> • Surveillance and outbreak response 		

Annexure 4

US Supported Activities in South Africa

HIV Prevention

- RADAR and University of Witwatersrand: Developing an integrated model for post-rape care and HIV post-exposure prophylaxis in rural settings (Limpopo)
- South African National Institute for Communicable Disease and Reproductive Health Research Unit (RHRU): Clinical trials of a safety study for the diaphragm and with ACIDFORM contraceptive gel (Gauteng)
- Medical Research Council: Clinical trials of effectiveness and safety of Cellulose Sulfate gel in reducing risk of male-to-female HIV transmission (Durban)
- Khomanani/Health Development Africa, CADRE and Soul City, Johns Hopkins University: National HIV and AIDS communication survey
- Population Council: Clinical trials of the effectiveness and safety of Carraguard, a vaginal microbicide, in reducing risk of male-to-female transmission of HIV (Cape Town, Limpopo)
- Women's Health Research Unit, UCT: Comprehending how knowledge of HIV status and HIV treatment programs may influence sexual and reproductive decision-making (Cape Town)
- IAVI Core Immunology Laboratory: Analyzing immunogenicity of different AIDS vaccine products, developing and validating new assays for measuring T cell function, and quality control testing on frozen samples from clinical trial sites (University of Witwatersrand)

HIV and TB

Johns Hopkins University with local partners (3 studies):

- Measuring effectiveness of an intervention aimed at increasing the uptake of HIV counseling of TB patients as they register (Soweto)
- Assessing two mechanisms (one symptom-based, the other using PPD) of active TB case-finding in HIV+ supported women in PMTCT programs (Soweto)
- Examining a new diagnostic tool, which will evaluate the performance of TK Medium for detecting TB. (Cape Town)

Counselling and Testing

- Department of Health: Testing feasibility, effectiveness, and cost of integrated Counseling and Testing (C&T) models within Family Planning (FP) services (Bojanala District)
- Population Council: Integrating counseling and testing into family planning services

Malaria

- Medical Research Council, in collaboration with Swiss Tropical Institute: Reviewing cost-effectiveness data on indoor residual spray programs and insecticide-treated net programs (Durban)

Prevention of Mother to Child Transmission

- Good Start Community Intervention Project – Peer support for safe infant feeding practices to prevent HIV transmission.
- Repeat HIV Testing in Pregnancy at 32 weeks – Pilot project to assess patient outcome improvements when sero-conversion is detected during pregnancy.
- Early Infant Diagnosis – Use of HIV diagnosis in infants to increase access to comprehensive HIV care for them and their families in a low resource setting.

- Child Health Problem Identification Project (CHPIP) - Assessing the impact of managing HIV infected pregnant women (using cotrimoxazole prophylaxis and ART) on perinatal and infant mortality in HIV infected children.
- Sentinel Surveillance – Evaluation of PMTCT sentinel surveillance strategy at immunization clinics in collaboration with the KZN Department of Health.
- PMTCT Training Evaluation – Evaluation of effectiveness of PMTCT training materials on quality of care, infant feeding, and health practices of women in PMTCT programs.

Antiretroviral Therapy

- Community response to availability of ART – Tulane, MRC, HST and UWC
- Disinhibition study – Tulane, MRC
- Longitudinal surveillance of AIDS treatment – (in joint planning phase) Peer education for improving adherence to ART – Eastern Cape/Columbia University
- Optimal models for HIV care and treatment – Eastern Cape/Columbia University
- Improving ART access – Eastern Cape/Columbia University

TB and HIV Services

- **Risk Factors for MDR TB Treatment Default** – Assesses mortality among MDR TB treatment defaulters, default risk factors for patients and in health system, and patient knowledge of MDR TB and its transmission.
- **Risk Factors for Default from TB Treatment** – Assesses treatment default risk factors for patients and in health system, and patient knowledge of TB and its transmission.
- **Expansion of Provider-initiated Counseling and Testing** – Evaluates strategies to increase Counseling and Testing in settings providing TB diagnosis and treatment to determine best practices for national application.
- **Evaluation of TB screening at Free-standing Counseling and Testing Sites** – Identification of best practices to integrate TB case-finding among HIV-positive clients at free-standing Counseling and Testing services.

- **Improving TB Patient access to HIV Care** – Identification of optimal strategies for comprehensive TB and HIV management in South Africa.
- **Evaluation of Integrated TB and HIV Services** – Identification and evaluation of available TB and HIV services available in SA.
- **Tuberculosis Trials Consortium (TBTC)** – Random controlled trials of new TB drugs (currently focusing on fluoroquinolones).
- **AIR Facility** – Establishment and support for unique laboratory in Witbank to study the transmission dynamics of MDR-TB and the benefits of infection control interventions. (USAID funded)
- **National TB Reference Lab** – Ongoing support for and joint research projects with the National TB Reference Laboratory as a global center of excellence.
- **Effectiveness of MDR Treatment prior to DOTS Plus** – A baseline information study.
- **Opt-out/Opt-In Study** - Cluster randomized intervention trial to evaluate ‘opting-out’ vs. ‘opting-in’ strategies for improved uptake of HIV counselling & testing in TB patients (Eastern Cape).
- **Preserving Effective TB Treatment with Second-line Drugs (SLD) (The PETTS Study)** – Participation in global study to assess best strategies to assure protection of SLD TB treatment and optimal patient outcomes.
- **Operational Research on TB Screening and Referral in ARV Sites** – Assessment of the implementation of national TB guidelines to identify best practices for TB and HIV co-management.
- **Diagnosis of Smear-Negative TB Disease** – Evaluation of practical strategies for optimal diagnosis of smear-negative pulmonary TB in HIV-infected patients.

Other Areas of Research

- Strategies to Increase Blood Donor Volunteers – SA National Blood Service
- Baseline Survey of Injection Practices in South Africa to Assess Need for Policy or Intervention Change– John Snow Inc.
- Fetal Alcohol Syndrome – community strategies for prevention and surveillance – University of Pretoria
- Prevention of Perinatal Sepsis – MRC, Wits, NICD
- Measles Immunization Effectiveness Study
- Impact of Intensive Counseling for Young Women to Reduce HIV Risk – NICD, Naturalia, Biologia, Progressus, and Cell Life (planned for 2006)
- Possible Risk Exposures to HIV Transmission Fueling the HIV Epidemic – HSRC (planned for 2006)

Annexure 5

Research Discipline Specific Priorities and Concerns 1996 and 2006

Clinical Research Working Group	Basic Research	Social and Behavioural Science	Policy and Operational Research
<p>5. The Research priorities of clinical research need to focus on:</p> <ul style="list-style-type: none"> • Nutrition • HIV and AIDS • Diarrhoea • TB • Cancer • Mental Health • Malaria • Violence and Injury 	<p>2. Allocating only 8% of the total research budget on Basic Research would be an under-investment since there is a strong current biotechnology base which focuses on long term solutions</p>	<p>1. Integration and equitable funding for behavioural specialities in the health service</p>	<p>1. Economic analyses of policies and programmes</p>
<p>6. Identification of researchers to accomplish the indicated research</p>	<p>3. The development of appropriate, rapid and cost-effective:</p> <ul style="list-style-type: none"> - diagnostics - Therapies - Prophylaxis 	<p>2. De-medicalisation of the approach to health problems</p>	<p>2. Identification of appropriate methods for evaluation and monitoring</p>
<p>7. The role identification of various institutions Identification of strategies build clinical research capacity</p>	<p>4. Determining individual susceptibility</p> <p>5. Understanding pathogenesis</p> <p>6. Development of molecular epidemiology</p> <p>6. Development of vaccine vaccine development vaccine evaluation vaccine delivery</p> <p>Basic Research</p>	<p>3. Behavioural research needs to be undertaken in all the priority health problem areas</p>	<p>3. Development of criteria for the allocation of resources</p> <p>4. Identification of strategies for community participation in health service delivery</p> <p>5. Systematic reviews of effectiveness of interventions</p> <p>6. Systematic reviews of effectiveness of interventions</p>

Clinical Research Working Group		Social and Behavioural Science	Policy and Operational Research
			<ul style="list-style-type: none"> 7. Identification of strategies to improve quality interventions on the health sector 8. Impact assessment of poverty and inequality interventions on health sector 9. Strategies for funding non-traditional research areas. 10. Develop strategies for research 11. Formal allocation within research proposals for cost utility of a study 12. Needs analysis for surveillance systems 13. Monitoring strategies for research 14. Formal allocation within research proposals for cost utility of a study 15. Targeted research training for service providers within institutions 16. Develop a funding structure that is coordinated but not centralised Formal allocation within

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